

residues on each of said first alkyl chains proximal ends, said first alkyl chain's distal ends each having a functional group adapted for covalently attaching a polynucleotide to said first alkyl chain.

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47. The biochip of claim 46 wherein said first alkyl chains are from 8 to 22 carbons length. TECH CENTER 1600/29

48. The biochip of claim 46 wherein said oxide or nitride surface is selected from the group consisting of silicon oxide, titania, tantalum oxide, silicon nitride, indium tin oxide, magnesium oxide, alumina, quartz, glass, silica, and hydroxylated surfaces.

49. The biochip of claim 46, wherein said first alkyl chains are the same length.

91 50. The biochip of claim 46 further comprising one or more selected polynucleotides attached to said first alkyl chain's distal ends through a functional group residue of said functional group.

51. The biochip of claim 46 further comprising said surface defining a plurality of immobilization regions for immobilizing said selected polynucleotides within said immobilization regions.

52. The biochip of claim 51 wherein different selected polynucleotides are immobilized within two or more different immobilization regions.

53. The biochip of claim 51, further comprising one or more border regions separating two or more of said immobilization regions to form two or more spaced apart immobilization regions.

54. The biochip of claim 46, wherein said ordered hydrocarbon monolayer is formed from a ratio of said first mentioned alkyl chains having a first mentioned functional group for attaching polynucleotides, and second alkyl chains, said second alkyl chains having proximal and distal ends, said alkyl chains interacting with each other to form said